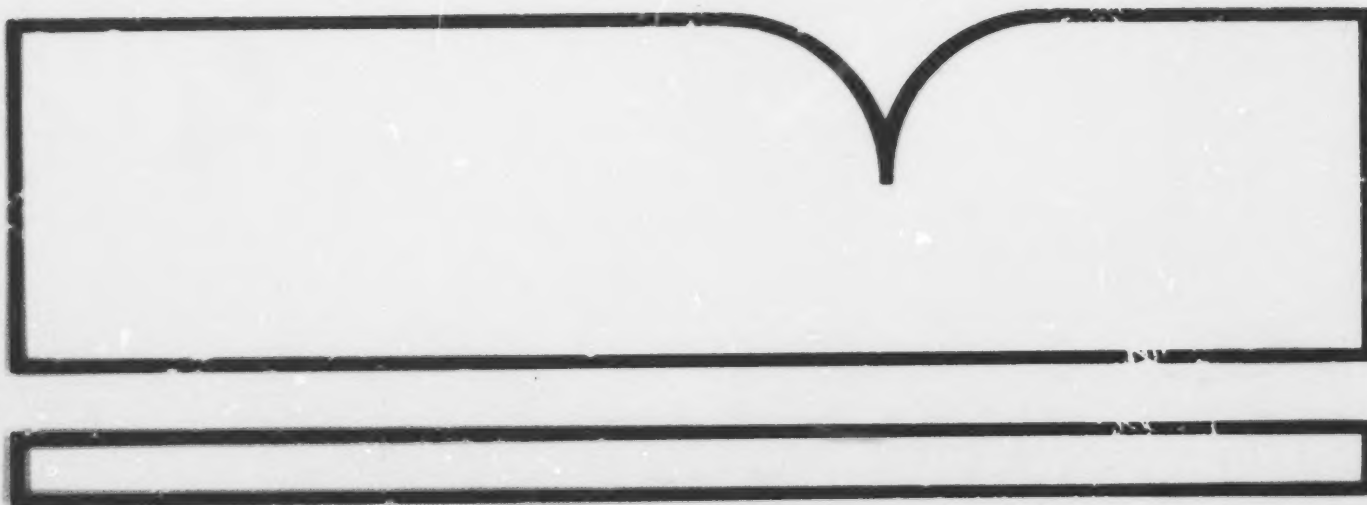


PB90-178559

Superfund Record of Decision (EPA Region 2)
BEC Trucking, Town of Vestal, Broome County, New York
(First Remedial Action), September 1989

(U.S.) Environmental Protection Agency, Washington, DC

28 Sep 89



U.S. Department of Commerce
National Technical Information Service

NTIS

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15. Supplementary Notes			14.	
16. Abstract (Limit: 200 words) The BEC Trucking site, also known as the Binghamton Equipment Company, is in the town of Vestal, Broome County, New York. The 3.5-acre site is an open lot which overlies a Class II aquifer. Land use neighboring the site is primarily commercial/industrial, but includes wetlands or marsh area to the west. Prior to the mid-1960s, the BEC Trucking site was an unimproved marshland. The original owner, Haial Trucking, later to become BEC Trucking, filled some of the marshlands with various fill materials, including fly ash from a local power company. BEC Trucking, Haial Trucking's successor, operated a combination truck body fabrication and truck maintenance facility. Paint thinners and enamel reducers used during operations, and waste hydraulic oil and waste motor oil reportedly generated during operations were stored in a drum storage area on the western portion of the site. A 1982 State inspection identified approximately 50 drums, 20 of which contained waste engine or cutting oils, enamel reducers, paint thinners, and waste solvents. The drums in the storage area were removed in 1983 along with some stained soil around the drums. In 1988 extensive sampling of ground water, surface water, and soil revealed low-level contamination. The suspected source of onsite ground water and surface water contamination appears to be a leaking underground storage tank on a neighboring property. Remedial activities are currently being undertaken at the neighboring site to address any ground water or surface water contamination at the site resulting from the tank's leakage. (Continued on next page)				
17. Document Analysis a. Descriptors Record of Decision -BEC Trucking, NY First Remedial Action - Final Contaminated Media: none Key Contaminants: none b. Identifiers/Open-Ended Terms c. COSATI Field/Group				
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EPA/ROD/R02-89/086
BEC Trucking, NY

16. Abstract (Continued)

The selected remedial action for this site is no further action. A monitoring program will be established to ensure that this remedy continues to be protective of human health and the environment. The estimated cost for this remedial action will be determined during the development of the proposed monitoring program.

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

BEC Trucking, Town of Vestal, Broome County, New York

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the BEC Trucking site in Vestal, New York, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act, 42 USC § 9601, et seq., and, to the extent applicable, the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. This decision is based on the Administrative Record for this site. The attached index identifies the items which comprise the administrative record upon which the selection of the remedial action is based.

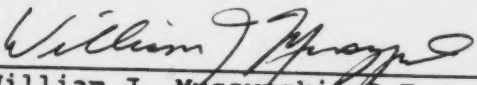
The State of New York concurs with the selected remedy.

DESCRIPTION OF THE SELECTED REMEDY

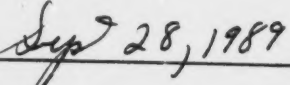
The United States Environmental Protection Agency (EPA), in consultation with the State of New York, has determined that the BEC Trucking site does not pose a significant threat to human health or the environment; and, therefore, taking additional remedial measures is not appropriate. This determination is based on previous clean-up activities conducted at the site in 1983, remedial investigation activities conducted by EPA in 1988, and a Feasibility Study in 1989, which evaluated appropriate remedial action alternatives. Thus, "No Further Action" is the selected remedy for the BEC Trucking site. A monitoring program will be established to ensure that this remedy continues to be protective of human health and the environment.

DECLARATION

The selected remedy, no further remedial action with monitoring, is protective of human health and the environment.


William J. Muszynski, P.E.
Acting Regional Administrator

Date


Sep 28, 1989

DECISION SUMMARY

BEC TRUCKING SITE

TOWN OF VESTAL, BROOME COUNTY, NEW YORK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

NEW YORK

TABLE OF CONTENTS

SECTION	PAGE
1.0 SITE LOCATION AND DESCRIPTION.....	1
2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES.....	2
3.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION.....	3
4.0 SCOPE AND ROLE OF OPERABLE UNIT.....	4
5.0 SITE CHARACTERISTICS.....	5
6.0 SUMMARY OF SITE RISKS.....	7
7.0 DESCRIPTION OF THE NO FURTHER ACTION ALTERNATIVE.....	9
8.0 EXPLANATION OF SIGNIFICANT CHANGES.....	10

ATTACHMENTS

APPENDIX I.....	TABLES
APPENDIX II.....	FIGURES
APPENDIX III.....	ADMINISTRATIVE RECORD INDEX
APPENDIX IV.....	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION LETTER OF CONCURRENCE
APPENDIX V.....	RESPONSIVENESS SUMMARY

1.0 SITE LOCATION AND DESCRIPTION

The Binghamton Equipment Company or BEC Trucking site is a flat-lying, open lot of approximately 3.5 acres located in the Town of Vestal, Broome County, New York (see Figure 1). The area surrounding the site is primarily commercial/industrial. The site is bordered by 1) Stewart Road to the south, 2) properties owned by Lou Korchak to the east and north, including Kay Terminals, a petroleum tank farm and distribution terminal located on the eastern border of the site, and 3) the Stewart Trailer Park to the west, which includes a wetlands or marsh area directly adjacent to the site (see Figure 2).

The BEC Trucking site is located in the glaciated portion of the Appalachian Plateau Physiographic Province. The bedrock underlying the site consists of the Late Devonian shales interbedded with sandstones of the West Falls Group. The overburden at the site has been divided into seven units: sand (ice contact deposit), silty sand (outwash deposit), silt and silty clay (outwash deposit), sand and gravel (outwash/braided stream deposit), silty clay (lacustrine deposit), fly ash fill and fill material, consisting of silt and very fine sand. The geologic cross section is shown in Figure 3.

The site drains to the north and west for surface water runoff, through the drainage ditch and marsh, and the direction of ground-water flow at the site is northwest (see Figure 4). The water table is encountered approximately seven feet below the surface. Ground-water flow velocities range from 3.9 feet/year to 23.7 feet/year at the site, based on field measurements. The aquifer system in the Vestal area is classified under the federal ground-water classification system as a Class II ground water (current and potential source of drinking water) and under the New York State system as a Class GA ground-water (source of potable water supply).

Field observations show that the western marsh area also receives surface water runoff from the south side of Stewart Road. A wetlands delineation performed at the site identifies a stream which interfaces directly with the marsh area to the west of the site and eventually discharges to the Susquehanna River.

The Town of Vestal manages the local public water supply system, which includes a series of water supply wells at various locations throughout the Vestal area. The closest drinking water wells to the site are those of the Town of Vestal Water District #4 Well Field, which is located near the southern bank of the

Susquehanna River and is about 5000 feet to the north of the site.

Residents and commercial/industrial operations in the vicinity of the site are serviced by the Vestal public water supply system; there are no known private wells used for drinking purposes which are impacted by the site. A private well at the Stewart Trailer Park is no longer used as a potable water supply; the sampling of this well indicated no significant contamination of concern. Any private one or two-family dwelling can legally connect to a public water supply system when such a system is within 100 feet of said dwelling.

2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

Prior to the mid-1960s, the BEC Trucking site was an unimproved marshlands. The original owner, Haial Trucking, later to become BEC Trucking, filled in some of the marshlands with various fill materials, including fly ash from a local power company. This material was dumped across the site to bring the pre-existing grade up to a level above the marsh; the thickness of the fill ranges from 5 to 10 feet. Natural imported silt, sand and gravel fill materials were used as soil cover across the site and are currently exposed at the surface. Data from and visual inspection of the soil borings and test pits indicate the thickness of the surface soil cover ranges from 1.5 to 2.3 feet.

Haial Trucking used the property for storing trucks and tankers. BEC Trucking, Haial's successor, operated a combination truck body fabrication and truck maintenance facility. Quantities of waste hydraulic oil and waste motor oil were reportedly generated during this operation. Paint thinners and enamel reducers were also used during the operation. Drums containing waste engine oil, cutting oil and other liquid waste products were routinely stored in the drum storage area on the western side of the site.

In 1982, the Town of Vestal notified the New York State Department of Environmental Conservation (NYSDEC) that drums were being stored at the site. In May 1982, the NYSDEC performed a site inspection which revealed approximately fifty 55-gallon drums in the drum storage area. About twenty drums contained various liquid-type waste materials, including waste engine or cutting oils, enamel reducers, paint thinners and waste solvents; the others were empty.

In January 1983, a composite sample was obtained from eight of the existing drums. The analysis of the waste oil sample revealed a total organic halides (TOX) concentration of 1.4 parts per million (ppm). An Extraction Procedure (EP) Toxicity

analysis indicated concentrations of lead (44.6 ppm) and cadmium (1.14 ppm). There was no soil, surface water, ground water or sediment sampling performed at the site during the course of this preliminary investigation. The site was included on the National Priorities List (NPL) in June 1986 with a Hazard Ranking System (HRS) score of 37.52, which was primarily based on two assumptions 1) the potential for exposure to lead in ground water and 2) that such an exposure pathway could develop. BEC Trucking is currently ranked at 764 on the May 1989 update of the NPL.

In 1983, COGS, Inc. purchased the BEC Trucking property and a portion of the property was transferred to Downside Risk, Inc. In 1986, John E. Walsh, the current site owner, purchased all outstanding stock of COGS, Inc. and Downside Risk, Inc.

In August 1983, COGS, Inc. contracted with an NYSDEC-approved waste oil hauler to perform a removal of the fifty surface drums. Some stained soil around the drums was excavated and contained in drums on-site. This activity represented a removal action that was performed at the site.

In September 1987, a notice letter was sent to John E. Walsh, president of COGS, Inc. and Downside Risk, Inc., notifying him of the Remedial Investigation/Feasibility Study (RI/FS) process and offering him the opportunity to conduct the RI/FS. In March 1988, Mr. Walsh notified EPA that he declined the offer to conduct the RI/FS.

Later in 1988, EPA conducted an RI, which included extensive sampling of ground water, surface water and sediments, and surface and subsurface soils.

The site is currently used for open storage of assorted construction materials, including fencing, and for sawmilling operations by the present owner.

3.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

There has been limited community interest shown with respect to activities at the site. Prior to beginning field investigation activities, EPA met with some of the local community groups and Town of Vestal officials to give a preliminary overview of the Superfund activity. A public meeting was held when the final RI and FS reports and Proposed Plan were released for public comment.

The RI and FS reports were repositied in the Vestal Town Hall and the Vestal Public Library. The Administrative Record for the

site has been located in the Vestal Public Library. The public comment period commenced on July 20, 1989 when the RI/FS documents were made available through a press release. A public notice, published on July 27, 1989 in two local newspapers, announced the availability of the Proposed Plan.

A public meeting was held on August 8, 1989 at the Vestal Town Hall. Here EPA presented the results of the RI/FS and the preferred remedial alternative for the site as identified in the Proposed Plan. Approximately fifteen persons attended the public meeting. A transcript of the public meeting has been made available in the repositories. The public comment period closed on August 21, 1989.

All comments have been addressed in the Responsiveness Summary (see Appendix V).

4.0 SCOPE AND ROLE OF OPERABLE UNIT

The BEC Trucking site was considered as a single operable unit RI/FS, including both on-site and off-site investigations.

The specific objectives of the RI for the BEC Trucking site were the following:

- To identify all potential source areas of contamination;

- To characterize the nature and extent of possible contamination in environmental media on-site and off-site, including soils, sediments, surface water and ground water;

- To determine the hydrogeologic and geologic characteristics of the site to assess potential present or future impacts on downgradient receptors; and,

- To assess the present and future potential risks to public health and the environment caused by site contamination in the absence of any remedial action.

The field investigation consisted of the following: 1) geophysical surveying, 2) soil-gas surveying, 3) test pit excavations, 4) surface water and sediment sampling, 5) surface and subsurface soil sampling, and 6) monitoring well installation for ground-water sampling and hydrogeologic testing (see Figure 5). This investigation was conducted during the summer and fall of 1988. Ground-water was sampled in two rounds; the data that were used

for the RI/FS analysis, including the risk assessment, were from the second round of sampling.

The 1983 removal of the fifty drums that were stored on-site represented a removal of source contaminants. The HRS score was based primarily on potential contamination which was identified as a result of the composite sampling of eight of the drums containing waste materials. No other sampling was performed on the site at that time; there had been no reports of ground-water, surface water or soil contamination resulting from activities at the site. No prior investigation of these potential pathways of contamination was conducted until the 1988 RI activities.

5.0 SITE CHARACTERISTICS

The field investigation identified five potential source areas of contamination on the site (see Figure 6). These potential source areas are as follows, with the major contaminants identified: 1) the former drum staging areas--no major contaminants, 2) the southeast corner of the site--polyaromatic hydrocarbons (PAHs), 3) an oil/gasoline seep area--lead, volatile organics and PAHs, 4) the drainage ditch areas--lead and PAHs, and 5) the fly ash fill area--arsenic.

The field sampling and the risk assessment, conducted during the RI, revealed limited and low level contamination (see Tables 1-6), with the following three areas of concern:

- carcinogenic polyaromatic hydrocarbons (cPAHs), e.g., benzo(a)pyrene and chrysene, in surface soils and sediments
- benzene in ground water
- arsenic in ground water

During the course of the RI, an in-ground oil seep/leak was observed entering the drainage ditch on the east side of the site. Subsequent investigations by the NYSDEC spill response personnel revealed that this seep/leak was directly related to an underground storage tank on the Kay Terminals property, which contained leaded gasoline and diesel fuel. Currently, on-going remedial activities are being undertaken by the property owner; a ground-water pumping and treatment system to remediate the source of contaminants is being developed to address any related ground-water and surface water contamination on the BEC Trucking site resulting from the Kay Terminals spill.

PAHs are very common in industrial soils and are produced from various combustion processes. Since PAHs can be related to on-

site operations, the primary remedial action objective was to consider limiting current and future human exposure to cPAH-contaminated soils only.

Benzene was detected at a level of 3 parts per billion (ppb) in the ground water from only one on-site monitoring well (MW-3). This value is above the NYS standard of non-detect for Class GA ground waters, but below the EPA maximum contaminant level (MCL) of 5 ppb.

Reduction of benzene in ground water is not considered as a remedial action objective due to the following: 1) the petroleum spill, containing benzene, appeared to originate off-site from the Kay Terminals property and is being addressed under another action, 2) Kay Terminals is permitted to discharge up to 1 ppb of benzene in its storm water discharge into the drainage ditch on the east side of the site, and 3) benzene was found in only one on-site monitoring well at a relatively low level of contamination. The benzene found in the ground water appears to be related to off-site conditions. As a result of the current remedial activities that are being conducted by the adjacent property owner, benzene should not pose a significant problem in the future.

Arsenic was detected at levels of 54 ppb (unfiltered) and 38 ppb (filtered) in the shallow ground water from only one on-site monitoring well (MW-2A). Both of these values are above the NYS ground-water standard of 25 ppb for Class GA ground waters and the unfiltered sample is above the EPA MCL of 50 ppb for arsenic.

Reduction of arsenic in ground water is not considered as a remedial action objective due to the following: 1) the applicable or relevant and appropriate requirements (ARARs) were minimally exceeded at only one on-site monitoring well, downgradient of the fly ash fill; 2) the arsenic contamination is localized and has leached or is leaching from the on-site deposits of fly ash; 3) no arsenic plume has been identified, thus there is no apparent migration off-site; 4) fly ash has been used as fill material in other areas in the Town of Vestal; 5) there has been no documented use of arsenic in past site operations; 6) the fly ash fill has been in place at the site for over twenty years; and, 7) the impact of the fly ash fill on the site should not significantly change in the future.

Consumption of potentially-contaminated ground water, through private drinking water wells in the area, is highly unlikely, for various reasons:

1. The site is currently zoned industrial; future uses will likely remain industrial.

2. Ground water beneath the site discharges to the northwestern area of the adjacent wetlands; and, therefore, any migration of potentially contaminated ground water to an off-site downgradient well is unlikely.
3. New residences in the vicinity would be expected to be connected to the public water supply system; the development of private potable water wells is highly unlikely.
4. If any potable water wells were to be developed, those wells would likely use the bedrock aquifer system. Groundwater samples collected from the lower portion of the overburden aquifer, just above the bedrock aquifer, did not exhibit elevated levels of the indicator contaminants.

6.0 SUMMARY OF SITE RISKS

The Public Health Evaluation/Risk Assessment is contained in the RI report, identifies specific contaminant risks, and addresses the potential impacts to human health and the environment associated with the site. The Risk Assessment was performed using conservative guidelines as outlined by EPA in the Superfund Public Health Evaluation Manual. The purpose of using conservative assumptions is to explore the potential for adverse health effects so that the final estimates will actually be near or higher than the upper end of the range of actual exposures and/or risks.

Exposure pathways considered were direct contact (dermal absorption-skin contact and ingestion-direct consumption through the mouth) with surface soils, ground water and surface water and sediments and inhalation of volatiles and airborne particulates. Risks from these exposure pathways were evaluated by comparing concentrations of chemicals in the contaminated exposure medium at points of potential exposure to chemical-specific ARARs. In addition, quantitative risk estimates were developed for all site-related chemicals not governed by any direct ARARs, by combining the estimated intakes of potentially exposed populations with health effects criteria. Chemicals of concern or indicator chemicals were selected based on their on-site frequency of detection, their potential for adverse health effects, the levels at which they were detected compared to background data, and their relation to known or suspected on-site operations.

Two cases were evaluated, a worst case scenario and an average case scenario. The average case scenario is based on highly

conservative assumptions, e.g., consuming two liters of ground water a day over an entire lifetime of seventy years. The worst case scenario is the result of the maximization of all variables used in the risk equations. Rather than being a realistic measure of risk, the worst case scenario represents the maximum possible risk to the most sensitive segment of the potentially exposed population. Both the average and worst case scenarios are considered to be over-protective and well above the normal every-day cancer risk.

The quantitative risk assessment identified minimal risk to human health. Excess lifetime cancer risks are probabilities that are generally expressed in scientific notation, e.g., 10^{-4} . An excess lifetime cancer risk of 10^{-4} indicates that an individual has a one in one million chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure condition at a site.

The context within which to judge the relative risk from each of the exposure pathways has been established by EPA. For carcinogens, the target risk range is a 10^{-4} to 10^{-7} excess lifetime cancer risk. Overall cancer risks under both the maximum and average case current use scenarios for nearby residents were within EPA criteria for the protection of human health. Under a future use scenario, only the maximum case scenario exceeded EPA criteria. The majority of the risk is a result of the ingestion of ground water from a shallow, overburden well. For non-carcinogens, health criteria are generally developed using risk reference doses (RfDs) developed by EPA. The RfD, expressed in mg/kg-day, is an estimate of the daily exposure to the human population (including sensitive sub-populations) without an appreciable risk of deleterious effects during a lifetime. The RfD provides a benchmark to which chemical intakes may be compared. The Hazard Index (the sum of expected dose/RfD ratios exceed one) is a measure of non-carcinogenic risk and provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. In general, where the Hazard Index is above one, observed concentrations pose unacceptable risks of exposure. Hazard Indices for nearby residences were, likewise, below EPA criteria for the protection of human health with the exception of the maximum case, future use scenario. Cancer risks and hazard indices for workers were below EPA criteria for all scenarios.

Based on the results of the risk assessment and the remedial action objectives analysis, the only area of concern is the area of CPAH-contaminated soil. This result was based on one soil sample which exceeded the risk-based cleanup level, corresponding to a lifetime cancer risk level of 10^{-4} , which was the point of departure in the overall 10^{-4} to 10^{-7} risk range. A summary of the

risk assessment values for average and worst case scenarios related to both the 10^{-6} risk level and the Hazard Index is presented in Table 7.

7.0 DESCRIPTION OF THE "NO FURTHER ACTION" ALTERNATIVE

Based upon the findings and analysis of the RI/FS, the EPA, in consultation with the State, has determined that the BEC Trucking site does not pose a significant threat to human health and the environment. The EPA, therefore, has selected the "No Further Action" Alternative as the selected remedy for the site. No Further Action involves performing no further remedial action at the site to remove, remediate or contain any contaminated soils.

Additionally, a monitoring program will be designed to include surface water, ground water, and sediment sampling stations along the western and northern margins of the BEC site, as well as, at various locations in the adjacent wetlands. This monitoring program will verify that the remedy continues to be protective of human health and the environment, particularly with respect to the potential exposure pathways to the adjacent wetlands. The monitoring program will be further delineated in the post-ROD phase of the project. The cost of this alternative will be determined during the development of the proposed monitoring program.

Further information on the other alternatives that were considered is contained in the Feasibility Study.

Since the original drums of lead-contaminated waste oils, solvents and paint thinners have been removed in a previous removal action, any remaining hazardous contamination is below health-based levels. Fly ash will remain at the site; its impact on the environment does not currently present a problem and is not expected to present a problem in the future.

The concentrations of cPAH contaminants that presently exist on-site are near the remedial action objective risk level of 10^{-6} (one in one million) which is within the acceptable range of 10^{-4} to 10^{-7} as recommended by EPA for a remediation goal. The concentration of the cPAHs and other organic compounds in surface soils would tend to be reduced over time through bio-degradation; thus, the risk of exposure would also be further reduced. Action-specific ARARs are not applicable for a No Further Action Alternative.

This alternative would be easy to implement. Taking no further action would also prevent any disturbance to the sensitive

wetlands area, on and adjacent to the site. As indicated previously, the monitoring program will verify that the remedy remains protective of human health and the environment in the future.

Based on the analysis of current information and data available from the RI/FS, EPA believes that the selected remedy, no further remedial action with monitoring, will be 1) protective of human health and the environment, based on risk, 2) cost effective, and 3) implementable.

8.0 EXPLANATION OF SIGNIFICANT CHANGES

EPA's preferred alternative for the BEC Trucking site, as documented in the Proposed Plan, is the "No Further Action" Alternative with monitoring. There have been no significant changes made to the selected remedy, since it was originally presented in the Proposed Plan.

APPENDIX I
TABLES

Table 1

BEC TRUCKING SITE - VESTAL, NY

ORGANIC & INORGANIC CHEMICALS DETECTED IN GROUNDWATER SAMPLES (ug/l)
(first and second round of samples)

<u>Chemical</u>	<u>Frequency of Detection</u>	<u>Concentration Range</u>	<u>Background (MW-1)</u>
<u>Organic:</u>			
1,1,1-Trichlorethane	1/7	3-4	<5
Benzene*	1/7	2-3	<5
Xylenes	1/7	5	<5
Toluene	2/7	2	<5
Bis(2-Ethylhexyl) Phthalate	1/7	2	<10
<u>Inorganic:</u>			
Aluminum	13/14	7.6-32,400	17-2,170
Antimony	3/14	24-60	<60
Arsenic *	5/14	24- 132	<10
Barium	13/14	34-253	34-83
Calcium	14/14	92,000-384,000	92,000-98,000
Chromium	7/14	4.0-36	36
Cobalt	3/14	4.1-33	4.1
Copper	12/14	4-60	3.1-13
Iron	10/14	77-22,000	77-5,500
Lead *	10/14	2-67	2-15
Magnesium	14/14	870-50,000	15,000-16,000
Manganese	14/14	12-3,100	144-449
Potassium	14/14	770-26,000	3,300-4,200
Selenium	2/14	9-16	9-16
Sodium	14/14	6,300-96,000	91,000-96,000
Vanadium	5/14	2.8-41	<50
Zinc	12/14	6-170	6.4-21

* Indicator Chemicals

Table 2

BEC TRUCKING SITE - VESTAL, NY

ORGANIC AND INORGANIC CHEMICALS DETECTED IN SURFACE WATER (ug/L)

<u>Chemical</u>	<u>Frequency of Detection</u>	<u>Concentration Range</u>	<u>Background (SW-1)</u>
<u>Organic:</u>			
Carbon Disulfide	3/7	7-51	<5
Benzene	1/7	25 *	<5
Toluene	1/7	65 *	<5
Ethylbenzene	1/7	6 *	<5
Xylenes	1/7	60 *	<5
Di-N-Octyl Phthalate	1/7	3	<10
<u>Inorganic:</u>			
Aluminum	6/7	56-19,500	<200
Arsenic	6/7	2.3-10.1	<10
Barium	7/7	20.7-508	20.7
Calcium	7/7	72,600-195,000	72,600
Chromium	2/7	22.3-28.8	<10
Cobalt	3/7	6.0-13.4	<50
Copper	5/7	8.2-72.5	19.1
Iron	7/7	294-67,000	294
Lead	6/7	3.3-284	<5
Magnesium	7/7	14,100-37,900	14,100
Manganese	7/7	114-4,700	114
Mercury	1/7	0.3	<0.2
Nickel	2/7	12.2-24.6	<40
Potassium	7/7	1,480-12,000	1,480
Sodium	7/7	21,300-59,100	21,300
Vanadium	2/7	29.2-32.7	<50
Zinc	7/7	3.3-908	3.3

* Detected in SW-2 only.

Table 3

BEC TRUCKING - VESTAL, NY

ORGANIC CHEMICALS IN SEDIMENT SAMPLES

<u>Chemical</u>	<u>Frequency of Detection</u>	<u>Concentration Range (Ug/Kg)</u>	<u>Background (SD-01, Ug/Kg)</u>
<u>Volatiles</u>			
Methylene Chloride	1/10	<5-6	6
Acetone	2/10	14-13,000	14
Carbon Disulfide	4/10	21-280	<5
2-Butanone *	1/10	170-2,200	<10
Vinyl Acetate	1/10	8 **	<10
Benzene	3/10	2-11	<5
4-Methyl-2-Pentanone	1/10	8 **	<10
Toluene	1/10	94 **	<5
Ethylbenzene	1/10	16 **	<5
Xylenes	1/10	410 **	<5
<u>Semi-Volatiles</u>			
4-Methylphenol	1/10	87	<330
Benzoic Acid	1/10	160	<330
Butyl Benzyl Phthalate	1/10	92	<330
Bis(2-Ethylhexyl)Phthalate	4/10	100-2100	<330
<u>Non-Carcinogenic PAHs *</u>			
Naphthalene	2/10	42-500	<330
2-Methylnaphthalene	1/10	46	<330
Acenaphthylene	1/10	26	<330
Acenaphthene	2/10	83-330	<330
Fluorne	2/10	170-450	<330
Phenanthrene	4/10	120-5700	1500
Anthracene	3/10	230-980	230
Fluoranthene	5/10	270-13,000	1800
Pyrene	5/10	250-9700	1900
Indeno(1,2,3-CD)Pyrene	2/10	540-1900	<330
Benzo(G,H,I)Perylene	3/10	52-1400	<330
Dibenzofuran	2/10	80-230	<330
Total Non-Carcinogenic PAHs	5/10	690-61,900	5930
<u>Carcinogenic PAHs *</u>			
Benzo(a)Anthracene	4/10	150-4000	950
Chrysene	4/10	170-4500	70
Benzo(B+K)Fluoranthene	4/10	320-9100	1200
Benzo(A)Pyrene	4/10	150-4000	590
Total Carcinogenic PAHs	4/10	720-26,300	2920

* Indicator Chemicals ** Detected in SD-02 Only

Table 4

BEC TRUCKING SITE - VESTAL, NY

Inorganic Chemicals in Sediment Samples (mg/kg)

Chemical	<u>Frequency of Detection</u>	<u>Concentration Range</u>	<u>Background</u>	
			<u>SD-01</u>	<u>New York State</u>
Aluminum	11/11	5,000-16,000	6,200	50,000
Antimony	1/11	29.8	<12	<1
Arsenic	11/11	3-44	4.9	4.1
Barium	11/11	27-149	37.1	300
Beryllium	3/11	0.3-1.5	0.3	<1
Calcium	11/11	6,380-76,000	76,000	7,900-12,000
Chromium	11/11	10.3-34.7	16.5	30
Cobalt	11/11	4.2-16.1	5.7	3-5
Copper	11/11	20.9-63.5	25.2	20
Iron	11/11	16,800-36,800	19,500	20,000
Lead *	11/11	40-992	98.3	15
Magnesium	11/11	316-11,700	11,700	5,000-7,000
Manganese	11/11	291-1,290	472	200-300
Nickel	11/11	11.1-30.7	14.4	7-10
Potassium	8/11	334-1,000	433	16,000
Selenium *	2/11	1.5-4.2	<1	0.2
Silver *	5/11	0.96-4.2	0.96	
Sodium	1/11	137	<1000	7000
Vanadium	11/11	8.4-39.8	11.5	7-300
Zinc	11/11	98.3-592	98.3	5-290

* Indicator Chemicals

Table 5

BEC TRUCKING SITE - VESTAL, NY

Organic Chemicals in Surface Soils

<u>CHEMICAL</u>	<u>FREQUENCY OF DETECTION</u>	<u>CONCENTRATION RANGE (ug/kg)</u>	<u>BACKGROUND RANGE (ug/kg)</u>
<u>Volatiles</u>			
Methylene Chloride	1/18	<5-73	<5
Acetone	1/18	74-91(Duplicates)	<5
Chloroform	2/18	1-3	<5
Benzene *	2/18	2-10	<5
2-Butanone *	2/18	<10-140	<5
4-methyl-2-Pentanone	1/18	<10-25	<5
2-Hexanone	1/18	<10-5	<5
Xylenes	1/18	<10-790	<5
<u>Semi-Volatiles</u>			
Benzoic Acid	2/18	58-100	100
Di-N-Butyl Phthalate	3/18	120-1700	120
Butyl Benzyl Phthalate	1/18	<330-92	<330
Bis(2-Ethylhexyl)Phthalate	3/18	100-540	<330
4-Methylphenol	1/18	<330-34	<330
<u>Non-Carcinogenic PAHs *</u>			
Naphthalene	2/18	82-130	<330
2-Methylnaphthalene	1/18	<330-50	<330
Acenaphthylene	1/18	<330-26	<330
Acenaphthene	6/18	47-640	<330
Fluorene	6/18	52-390	<330
Phenanthrene	12/18	42-9700	100
Anthracene	8/18	110-1300	<330
Fluoranthene	12/18	64-6200	110
Pyrene	12/18	63-6400	130
Indeno(1,2,3-CD)Pyrene	6/18	200-2200	<330
Benzo(G,H,I)Perylene	4/18	490-1900	<330
Dibenzofuran	2/18	160-240	<330
Total Non-Carcinogenic PAHs	13/18	170-310,000	340
<u>Carcinogenic PAHs *</u>			
Benzo(A)Anthracene	11/18	35-3000	83
Chrysene	11/18	42-3300	78
Benzo(B+K)Fluoranthene	11/18	122-3800	140
Benzo(A)Pyrene	10/18	68-2500	72
Total Carcinogenic PAHs	11/18	207-14,800	373

* Indicator Chemicals

Table 6

BEC TRUCKING SITE - VESTAL, NY

INORGANIC CHEMICALS DETECTED IN
SURFACE SOIL SAMPLES (mg/kg)

<u>CHEMICAL</u>	<u>FREQUENCY</u>	<u>RANGE</u>	<u>NY</u>	<u>BACKGROUND EASTERN US</u>	<u>SS-02</u>
Aluminum	32/32	6200-14,000	50,000	7000-100,000	11,900
Antimony	1/32	9.1	<1	<1-8.8	<12
Arsenic	30/32	4-50	4.1	<0.1-73	16
Barium	30/32	51-357	300	10-1500	51
Beryllium	24/32	0.4-0.9	<1	<1-7	0.5
Cadmium	23/32	1.3-7.6	---	<1-1	5.0
Calcium	29/32	1300-74,700	7900-12,000	<100-160,000	5970
Chromium	32/32	10-49	30	1-1000	15
Cobalt	32/32	5.3-19	3-5	3-70	8.6
Copper	25/32	19-158	20	<1-700	43
Iron	32/32	10,000-84,700	20,000	100-100,000	22,900
Magnesium	30/32	3100-11,000	5000-7000	50-50,000	3840
Manganese	32/32	140-660	200-300	<2-7000	381
Lead *	32/32	5-511	15	<10-300	20
Mercury	14/32	0.1-1.5	--	0.01-3.4	0.98
Nickel	32/32	15-32	7-10	<5-700	25
Potassium	30/32	310-1900	16000	5-37,000	805
Selenium	5/32	0.5-3.3	0.15-0.2	1.4-3.9	<1
Silver	3/32	0.2-3.1	---	0.5-5	<2
Sodium	20/32	49-1800	7000	<500-50,000	1360
Thallium	0/32	-----	---	---	<1
Vanadium	32/32	10-30	70	7-300	17
Zinc	32/32	34-920	45	5-2900	75

*Indicator Chemicals

Table 7

Summary of RI Risk Assessment
Lifetime Cancer Risk Greater than 10^{-6} or Hazard Index Greater than 1

NEARBY RESIDENTS

<u>Pathway</u> <u>Carcinogenic PAHs</u>	<u>Matrix Type</u>	<u>Lifetime Cancer Risk</u>	
		<u>Worst Case</u>	<u>Average Case</u>
Ingestion	Soil	1.27E-05	3.38E-08
Dermal Absorption	Sediment	1.12E-05	1.06E-08
	Soil	1.67E-05	3.52E-08
Inhalation	Sediment	1.48E-05	1.10E-08
	Fugitive Dust	3.68E-05	3.37E-11
	On-Site Dust	9.20E-06	1.52E-12
<u>Benzene</u>			
Ingestion	Groundwater	2.60E-06	9.54E-07
Inhalation	Vapors while showering	3.17E-06	8.71E-07
<u>Arsenic (Carcinogenic Effects)</u>			
Ingestion	Groundwater	2.91E-03	3.88E-04
<u>Arsenic (Non-Carcinogenic Effects)</u>			
Ingestion	Groundwater	3.09E+00 *	3.09E-01 *
<u>Lead (Non-Carcinogenic Effects)</u>			
Ingestion	Groundwater	1.18E+00 *	2.88E-01 *

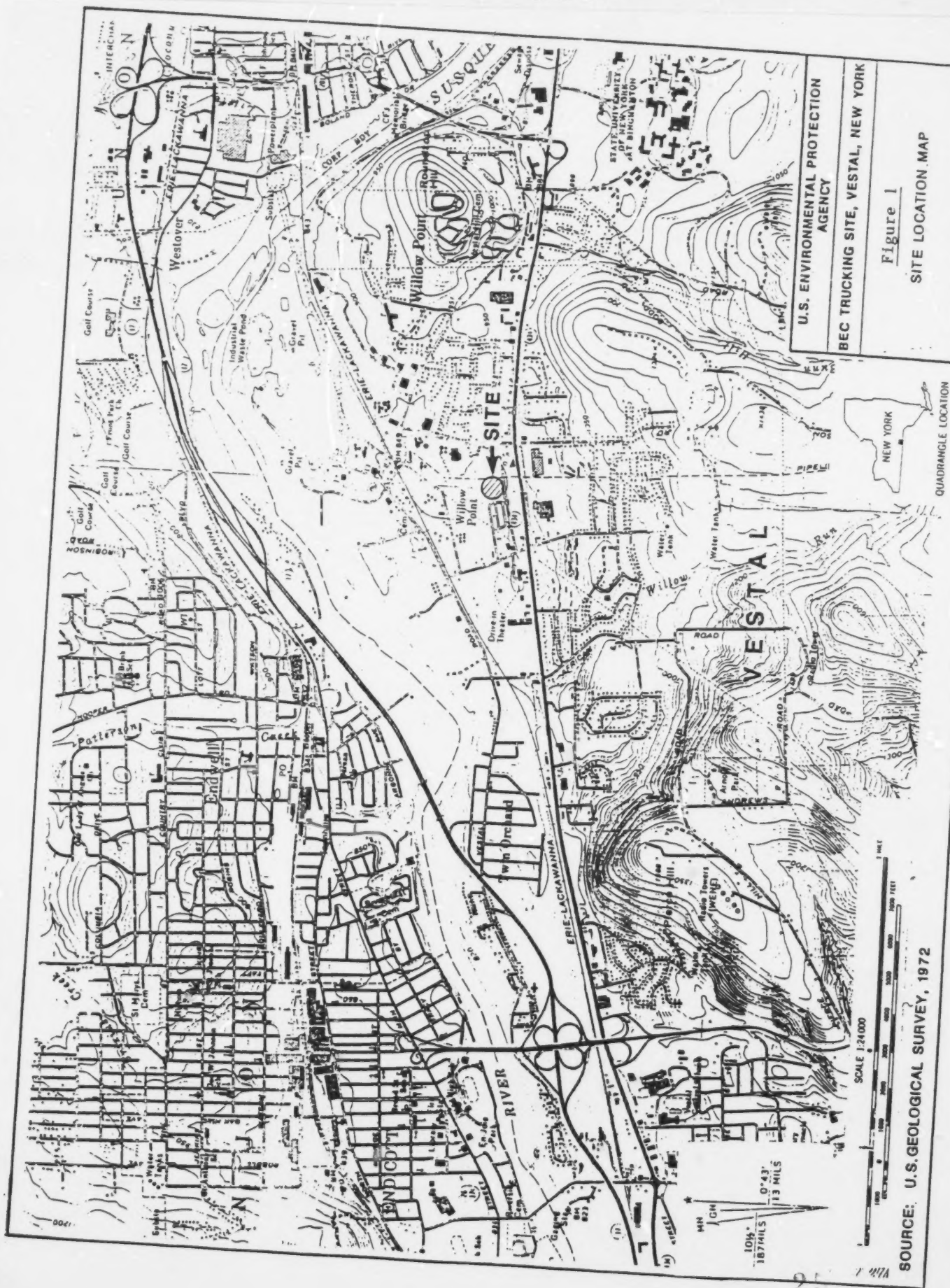
*Chronic Effect Hazard Index

ON-SITE WORKERS
 (Current Use Scenario)

<u>Pathway</u> <u>Carcinogenic PAHs</u>	<u>Matrix Type</u>	<u>Lifetime Cancer Risk</u> **	
		<u>Worst Case</u>	<u>Average Case</u>
Ingestion	Soil	9.52E-06	1.89E-08
Dermal Absorption	Soil	3.97E-05	8.18E-08
Inhalation	On-Site Dust	2.96E-05	3.09E-12

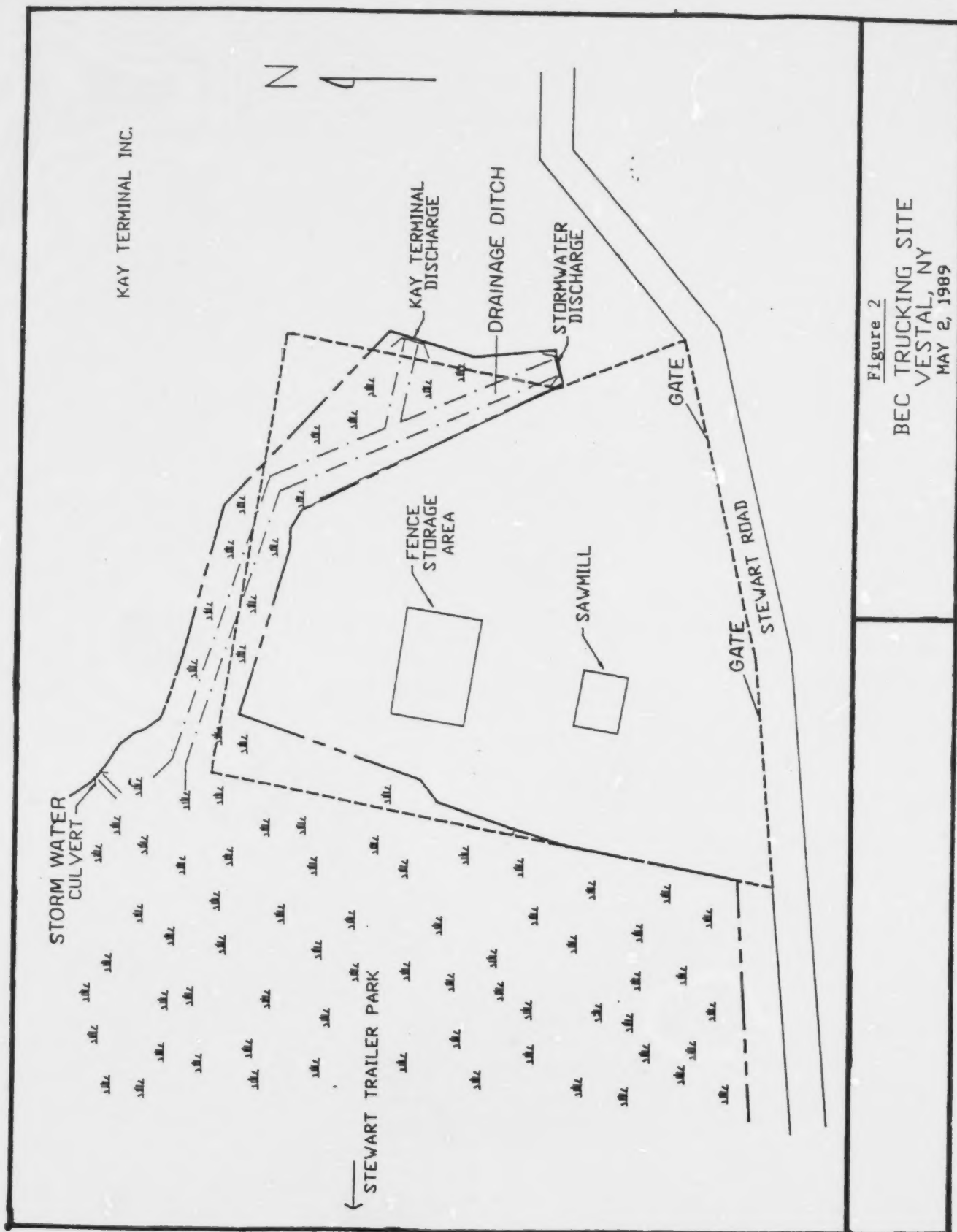
** 40 years exposure

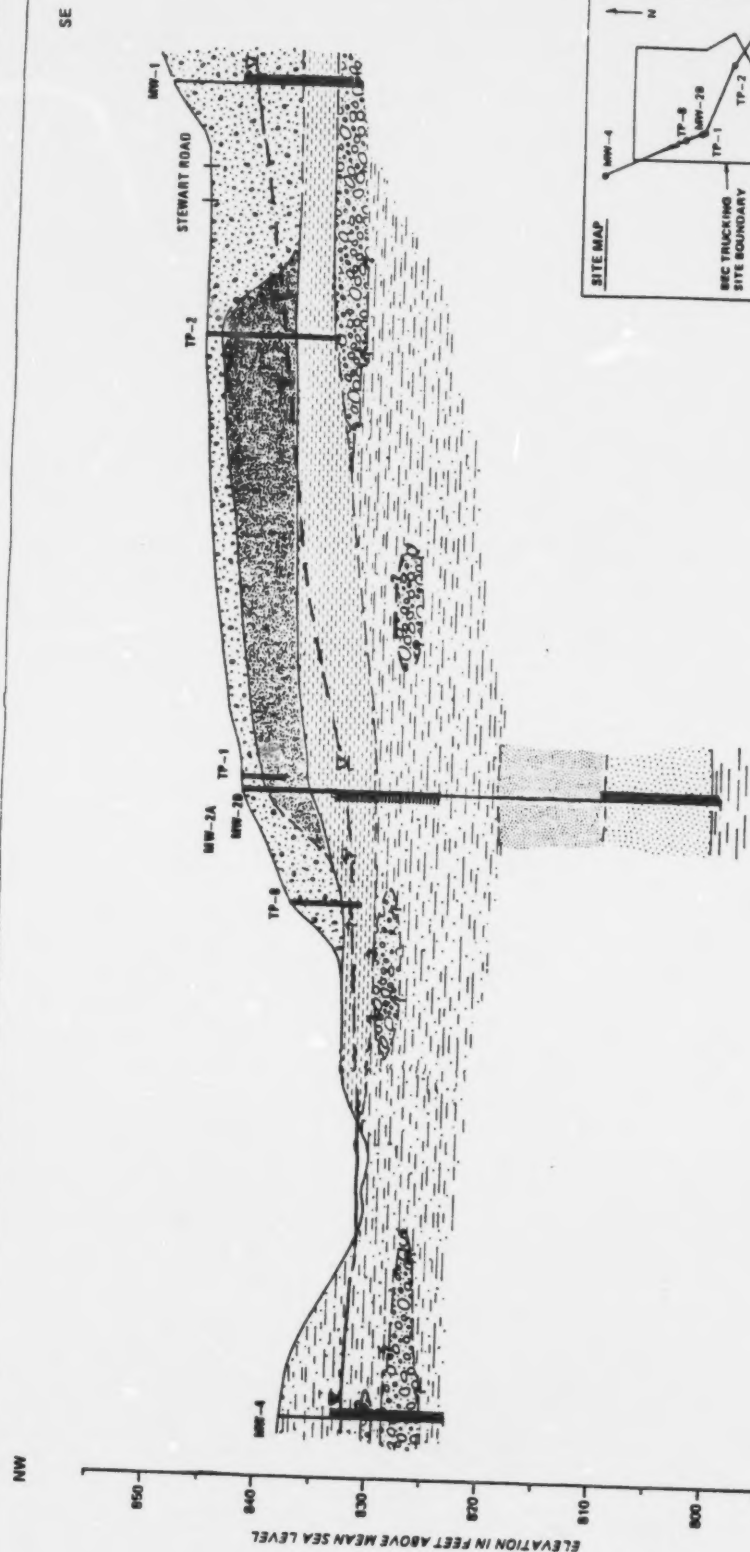
APPENDIX II
FIGURES



SOURCE: U.S. GEOLOGICAL SURVEY, 1972

U.S. ENVIRONMENTAL PROTECTION AGENCY
 BEC TRUCKING SITE, VESTAL, NEW YORK
 Figure 1
 SITE LOCATION MAP
 EBASCO SERVICES INCORPORATED





EXPLANATION

- ML FILL, SILT and very fine SAND, silty to moderate to dark yellowish brown (10 YR 6/2, 5/4, 4/2), with 10 - 30% subrounded gravel and cobbles, loose, dry to moist.
- CL/CL SILTY CLAY and CLAY, light olive gray to olive gray (5 Y 6/2, 5 Y 4/2), medium to high plasticity, soft to medium stiff, moist to wet, including decaying organic matter.
- ML/CL SILT and SILTY CLAY, moderate to dark yellowish brown (10 YR 5/4, 2/2), with 10 - 30% very fine to fine sand, low plasticity, loose to medium stiff or dense, moist to wet.
- ML/GM SILTY fine to coarse SAND, moderate to dark yellowish brown to brown (10 YR 5/4, 5 Y 3/4), with 20 - 35% subrounded gravel, loose to medium dense, wet.
- SM Silty fine SAND, grayish brown (5 YR 3/2), well sorted, angular to subangular, loose, wet.
- SW Fine SAND, grayish brown (5 YR 3/2), poorly sorted, subangular, with 20 - 30% subrounded gravel, medium dense, wet.
- BEDROCK - weathered SHALE
- MONITORING WELL SCREENED INTERVAL
- POTENTIOMETRIC SURFACE

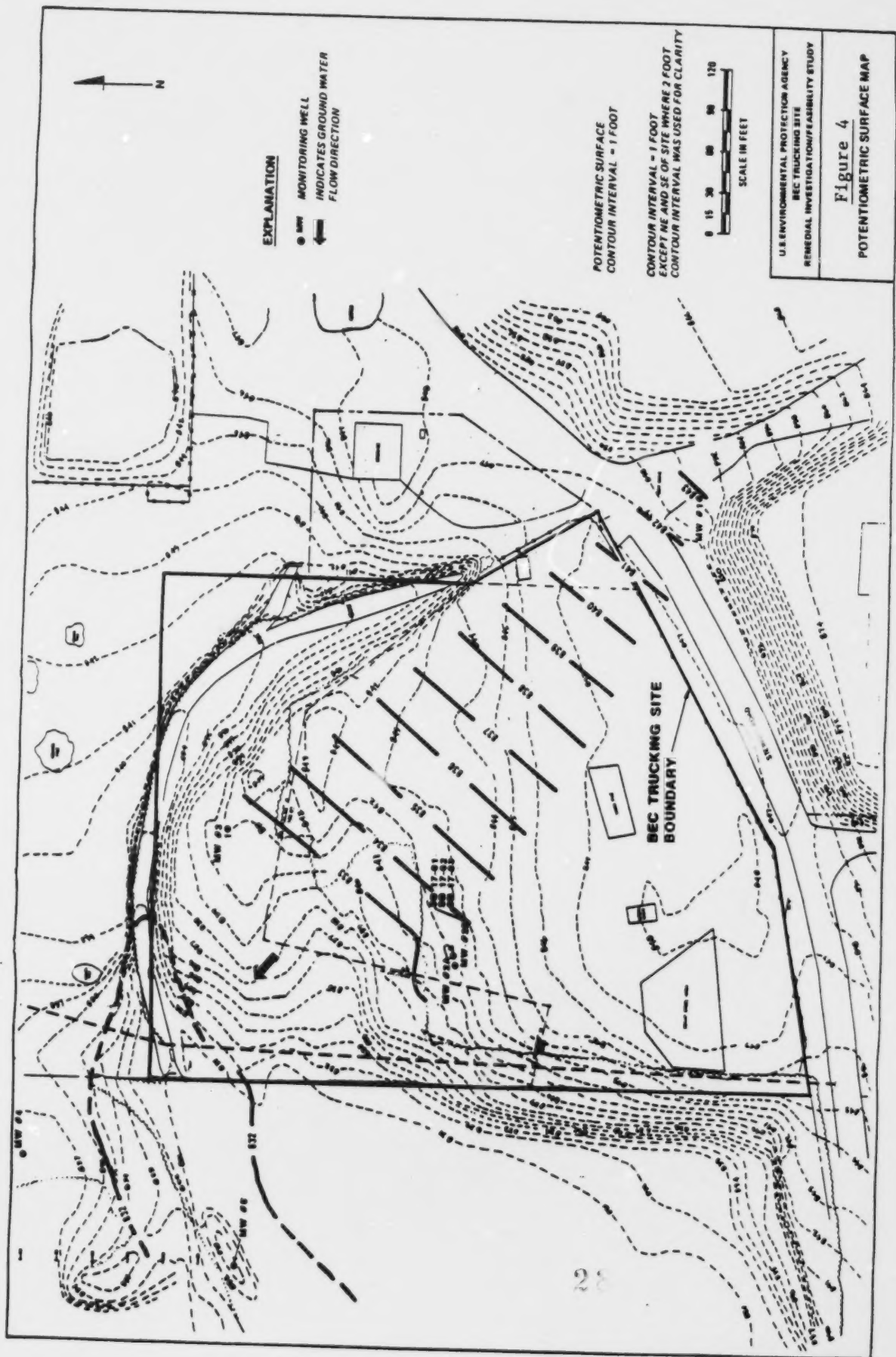
NOTE: TEST PITS WERE BACKFILLED IMMEDIATELY AFTER EXCAVATION. THEREFORE WATER LEVELS WERE NOT MEASURED.

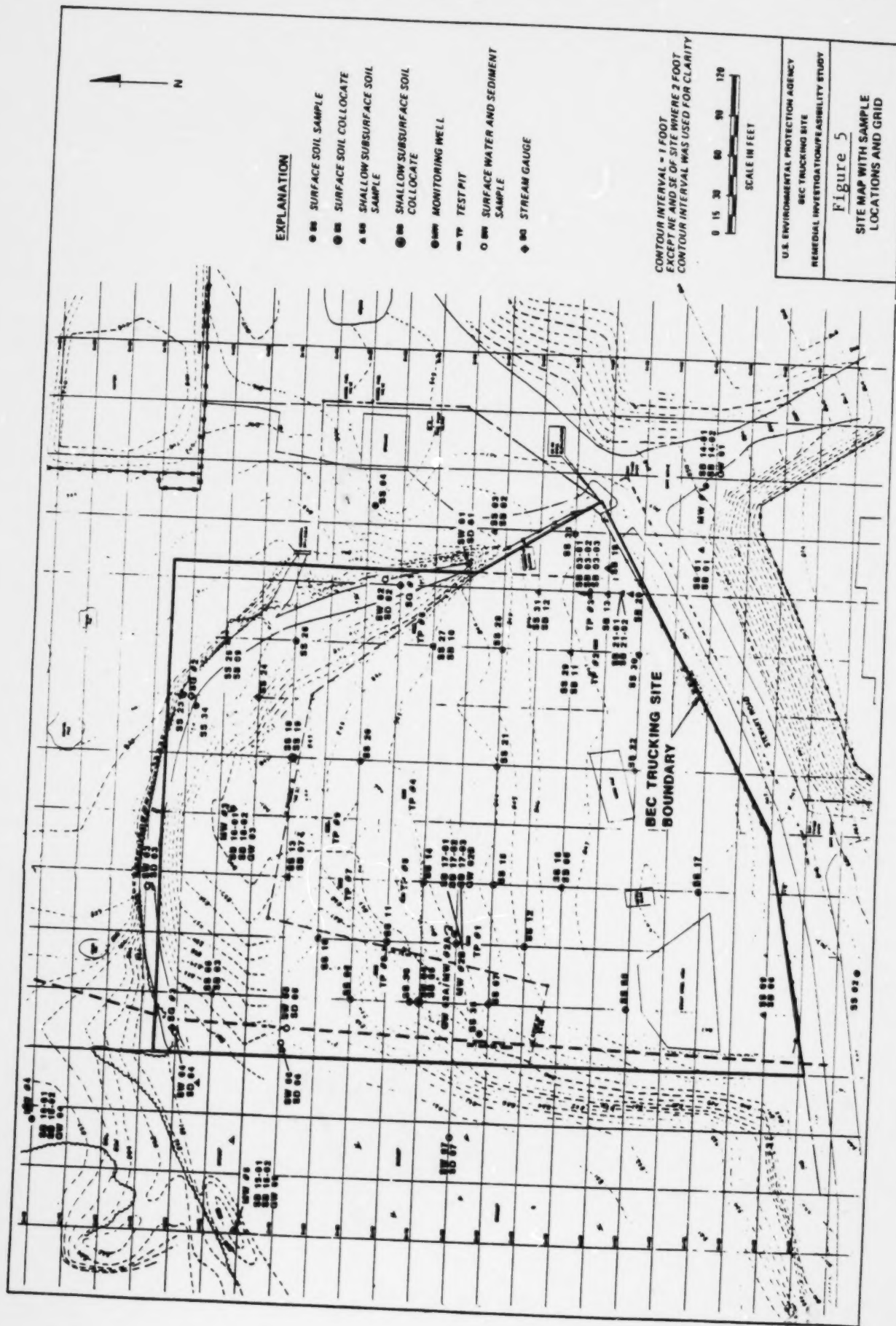
HORIZONTAL SCALE: 1" = 60'

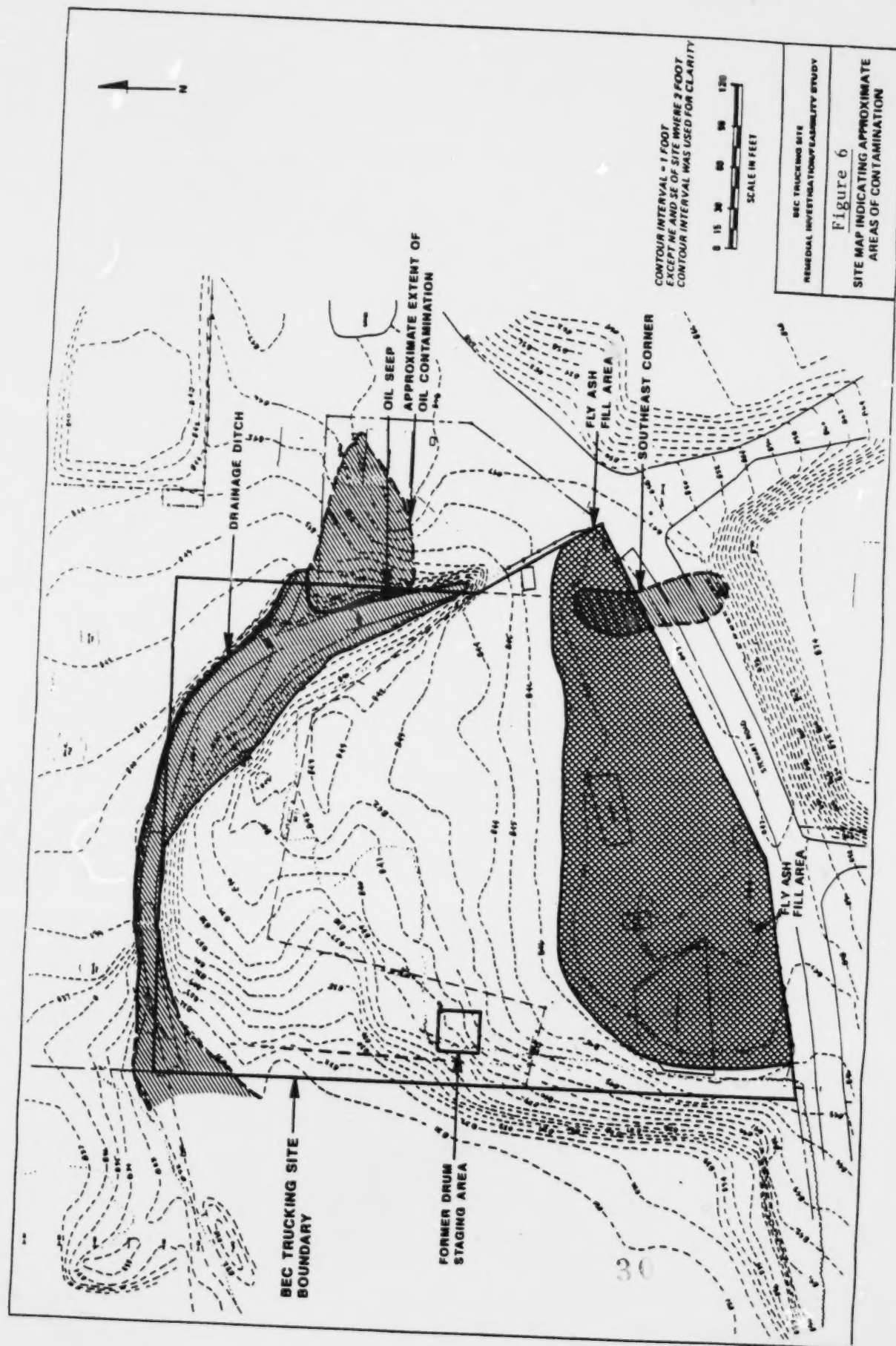
VERTICAL EXAGGERATION: 8:1

U.S. ENVIRONMENTAL PROTECTION AGENCY
BEC TRUCKING SITE
REMEDIATION INVESTIGATION/FEASIBILITY STUDY

Figure 3
GEOLOGIC CROSS SECTION







BEC TRUCKING SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Figure 6
SITE MAP INDICATING APPROXIMATE
AREAS OF CONTAMINATION

7

APPENDIX III
ADMINISTRATIVE RECORD INDEX

08/03/89

Draft Index Document Number Order
BEC TRUCKING Documents

Page: 1

Document Number: BEC-001-0001 To 0029

Parent: BEC-001-0003

Date: 02/01/88

Title: Final Community Relations Plan

Type: PLAN

Author: Manning, Kathleen S: ICF Incorporated

Recipient: none: US EPA

Document Number: BEC-001-0003 To 0004

Date: 02/29/88

Title: (Letter forwarding Final Community Relations Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Johnson, Lillian D: US EPA

Attached: BEC-001-0001

Document Number: BEC-001-0029 To 0119

Parent: BEC-001-0030

Date: 03/01/88

Title: Final Work Plan for RI/FS

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-0030 To 0030

Date: 03/11/88

Title: (Letter forwarding Final Work Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Alvi, M Shaheer: US EPA

Attached: BEC-001-0029

Document Number: BEC-001-0438 To 0579

Parent: BEC-001-0440

Date: 06/01/88

Title: Final Field Operations Plan: Field Sampling and Analysis Plan, Site Management Plan, Health and Safety Plan

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

08/09/89

Draft Index Document Number Order
BEC TRUCKING Documents

Page: 2

Document Number: BEC-001-0440 To 0440

Date: 06/28/88

Title: (Letter forwarding Final Field Operations Plan, including Field Sampling and Analysis Plan, Site Management Plan and Health and Safety Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Alvi, M Shaheer: US EPA

Attached: BEC-001-0438

Document Number: BEC-001-0500 To 0697

Date: 07/01/89

Title: Final Feasibility Study Report

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-0698 To 1027

Date: 08/01/89

Title: Final Remedial Investigation Report

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-1028 To 1112

Parent: BEC-001-1029

Date: 04/01/83

Title: Town of Vestal Water District No. 4 Groundwater Exploration

Type: PLAN

Author: Martin, Robert J Jr: engineer

Recipient: none: Vestal NY, Town of

Document Number: BEC-001-1029 To 1029

Date: 04/07/83

Title: (Letter forwarding Town of Vestal Water District No. 4 Groundwater Exploration report)

Type: CORRESPONDENCE

Author: Martin, Robert J Jr: engineer

Recipient: none: Vestal NY, Town of

Attached: BEC-001-1028

08/09/89

Draft Index Document Number Order
BEC TRUCKING Documents

Page: 3

Document Number: BEC-001-1113 To 1123

Date: 07/01/89

Title: (Superfund Update describing Proposed Plan for remediation of the site)

Type: CORRESPONDENCE

Author: Duda, Damian J: US EPA

Recipient: none: none

Document Number: BEC-001-1124 To 1198

Date: 09/01/84

Title: Preliminary Investigation of the BEC Trucking Site - Phase I Summary Report

Type: PLAN

Author: none: Ecological Analysts

Recipient: none: NY Dept of Environmental Conservation

Document Number: BEC-001-1199 To 1231

Date: 07/01/89

Title: Addendum to the Final Remedial Investigation Report

Type: PLAN

Author: none: Ebasco Services

Recipient: none: US EPA

Attached: BEC-001-1202 BEC-001-1212

Document Number: BEC-001-1202 To 1210

Parent: BEC-001-1199

Date: 06/01/89

Title: Report of Stage 1A Cultural Resources Survey

Type: PLAN

Author: Fiedel, Stuart: Ebasco Services

Recipient: none: none

Document Number: BEC-001-1212 To 1230

Parent: BEC-001-1199

Date: 07/01/89

Title: Wetland Delineation Report

Type: PLAN

Author: Henry, Richard: Roy F Weston Inc

Recipient: Charters, David W: US EPA

08/09/89

Draft Index Author Name Order
BEC TRUCKING Documents

Page: 1

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Date: 06/01/89

Title: Report of Stage 1A Cultural Resources Survey

Type: PLAN

Author: Fiedel, Stuart: Ebasco Services

Recipient: none: none

Document Number: BEC-001-0029 To 0119

Parent: BEC-001-0030

Date: 03/01/88

Title: Final Work Plan for RI/FS

Type: PLAN

Author: Sorgol, John F: Ebasco Services

Recipient: none: US EPA

08/09/89

Draft Index Author Name Order
BEC TRUCKING Documents

Page: 2

Document Number: BEC-001-0438 To 0579

Parent: BEC-001-0440

Date: 06/01/88

Title: Final Field Operations Plan: Field Sampling and Analysis Plan, Site Management Plan, Health and Safety Plan

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-0580 To 0697

Date: 07/01/89

Title: Final Feasibility Study Report

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-0698 To 1027

Date: 06/01/89

Title: Final Remedial Investigation Report

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-1212 To 1230

Parent: BEC-001-1199

Date: 07/01/89

Title: Wetland Delineation Report

Type: PLAN

Author: Henry, Richard: Roy F Weston Inc

Recipient: Charters, David W: US EPA

Document Number: BEC-001-0001 To 0028

Parent: BEC-001-0003

Date: 02/01/88

Title: Final Community Relations Plan

Type: PLAN

Author: Manning, Kathleen S: TCF Incorporated

Recipient: none: US EPA

06/09/89

Draft Index Author Name Order
BEC TRUCKING Documents

Page: 3

Document Number: BEC-001-1028 To 1112

Parent: BEC-001-1029

Date: 04/01/83

Title: Town of Vestal Water District No. 4 Groundwater Exploration

Type: PLAN

Author: Martin, Robert J Jr: engineer

Recipient: none: Vestal NY, Town of

Document Number: BEC-001-1029 To 1029

Date: 04/07/83

Title: (Letter forwarding Town of Vestal Water District No. 4 Groundwater Exploration report)

Type: CORRESPONDENCE

Author: Martin, Robert J Jr: engineer

Recipient: none: Vestal NY, Town of

Attached: BEC-001-1028

Document Number: BEC-001-0003 To 0004

Date: 02/29/88

Title: (Letter forwarding Final Community Relations Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Johnson, Lillian D: US EPA

Attached: BEC-001-0001

Document Number: BEC-001-0030 To 0030

Date: 03/11/88

Title: (Letter forwarding Final Work Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Alvi, M Shaheer: US EPA

Attached: BEC-001-0029

Document Number: BEC-001-0440 To 0440

Date: 06/28/88

Title: (Letter forwarding Final Field Operations Plan, including Field Sampling and Analysis Plan,
Site Management Plan and Health and Safety Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Alvi, M Shaheer: US EPA

Attached: BEC-001-0438

08/09/89

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Page: 1

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Title: Final Community Relations Plan

Type: PLAN

Author: Manning, Kathleen S: ICF Incorporated

Recipient: none: US EPA

Document Number: BEC-001-0003 To 0004

Date: 02/29/88

Title: (Letter forwarding Final Community Relations Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Johnson, Lillian D: US EPA

Attached: BEC-001-0001

08/09/89

Draft Index Chronological Order
BEC TRUCKING Documents

Page: 2

Document Number: BEC-001-0029 To 0119

Parent: BEC-001-0030

Date: 03/01/88

Title: Final Work Plan for RI/FS

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-0030 To 0030

Date: 03/11/88

Title: (Letter forwarding Final Work Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Alvi, M Shaheer: US EPA

Attached: BEC-001-0029

Document Number: BEC-001-0438 To 0579

Parent: BEC-001-0440

Date: 06/01/88

Title: Final Field Operations Plan: Field Sampling and Analysis Plan, Site Management Plan, Health and Safety Plan

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-0440 To 0440

Date: 06/28/88

Title: (Letter forwarding Final Field Operations Plan, including Field Sampling and Analysis Plan, Site Management Plan and Health and Safety Plan)

Type: CORRESPONDENCE

Author: Sachdev, Dev R: Ebasco Services

Recipient: Alvi, M Shaheer: US EPA

Attached: BEC-001-0438

Document Number: BEC-001-0698 To 1027

Date: 06/01/89

Title: Final Remedial Investigation Report

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

08/09/89

Draft Index Chronological Order
BEC TRUCKING Documents

Page: 3

Document Number: BEC-001-1202 To 1210

Parent: BEC-001-1199

Date: 06/01/89

Title: Report of Stage 1A Cultural Resources Survey

Type: PLAN

Author: Fiedel, Stuart: Ebasco Services

Recipient: none: none

Document Number: BEC-001-0580 To 0697

Date: 07/01/89

Title: Final Feasibility Study Report

Type: PLAN

Author: Gorgol, John F: Ebasco Services

Recipient: none: US EPA

Document Number: BEC-001-1113 To 1123

Date: 07/01/89

Title: (Superfund Update describing Proposed Plan for remediation of the site)

Type: CORRESPONDENCE

Author: Duda, Damian J: US EPA

Recipient: none: none

Document Number: BEC-001-1199 To 1231

Date: 07/01/89

Title: Addendum to the Final Remedial Investigation Report

Type: PLAN

Author: none: Ebasco Services

Recipient: none: US EPA

Attached: BEC-001-1202 BEC-001-1212

Document Number: BEC-001-1212 To 1230

Parent: BEC-001-1199

Date: 07/01/89

Title: Wetland Delineation Report

Type: PLAN

Author: Henry, Richard: Roy F Weston Inc

Recipient: Charters, David W: US EPA

APPENDIX IV
NYSDEC CONCURRENCE LETTER

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233 - 7010



Thomas C. Jorling
Commissioner

Mr. William J. Muszynski, P.E.
Acting Regional Administrator
United States Environmental
Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

SEP 26 1989

Dear Mr. Muszynski:

RE: BEC Trucking Site
NYSDEC Site Code: 7-04-007
Record of Decision

The State of New York has reviewed the Record of Decision (ROD) for the BEC Trucking Site, dated September 1989, and concurs with the selected "no further action" alternative.

The ROD will incorporate a wetlands monitoring plan, which will be jointly prepared by both the United States Environmental Protection Agency and the New York State Department of Environmental Conservation.

Additionally, as specified in the Responsiveness Summary, the consultant's on-site 55-gallon drums of drill cuttings and fluids will be properly disposed of within a reasonable time frame. Due to the growing public concern regarding these drums, we request that they are properly disposed of by December 1, 1989.

Please contact Mr. Michael J. O'Toole, Jr., P.E., at (518) 457-5861 if you wish to further discuss this project.

Sincerely,

Edward O. Sullivan

Edward O. Sullivan
Deputy Commissioner

MDK:slj

bcc: E. Sullivan (2)
M. O'Toole (2)
C. Goddard
J. Slack
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M. Kauffman
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APPENDIX V
RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
FOR THE PROPOSED REMEDIAL ACTION
AT THE
BEC TRUCKING SITE
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

The United States Environmental Protection Agency (EPA) held a public comment period from July 20, 1989 until August 21, 1989 to provide an opportunity for interested parties to comment on EPA's proposed remedial action at the BEC Trucking site in the Town of Vestal, New York. On August 8, 1989, EPA held a public meeting to present the proposed remedial action plan. Approximately 20 community residents attended the meeting. Copies of the proposed remedial action plan were distributed at the meeting and placed in the information repositories for the site.

The purpose of the responsiveness summary is to document EPA's responses to comments and questions raised during the public comment period.

The following comments, divided by specific topics, were received during the public comment period:

Comments on the RI/FS Work Plan and Sampling Plan

1A. Comment: Questioned whether the number of monitoring wells installed on the site and the number of ground-water samples taken at the site adequately represented the conditions at the BEC site.

1B. EPA Response: The number of well locations specified, that is, the two on-site locations and the two immediately down-gradient off-site locations, is sufficient for a site of this size (3.5 acres), given the history of activities at the site and the existing geologic/hydrogeologic conditions.

2A. Comment: Questioned the insufficient number of soil samples taken.

2B. EPA Response: The remedial investigation utilized thirty-two surface soil samples and twenty-eight subsurface soil samples in determining its findings; these actions represent well-selected sampling events. The BEC Trucking site has been thoroughly investigated with respect to surface and subsurface soil sampling.

3A. Comment: Questioned whether the Susquehanna River Basin Commission was consulted on the RI/FS.

3B. EPA Response: Through much research, all available data with respect to ground-water and surface water flow was gathered. This Commission was not consulted directly, since the ground-water studies referenced utilized ground-water and surface water modeling for their determinations. This modeling would include recharge/discharge scenario of the aquifer system and the Susquehanna River.

4A. Comment: Questioned whether Alan Randall's hydrogeologic studies and maps on the aquifer system were utilized during the RI/FS.

4B. EPA Response: Mr. Randall's studies and maps, along with other pertinent reports, were utilized in providing hydrogeologic site background. These have been referenced in the RI report.

Ground-water and Surface Water Related Issues

5A. Comments: Questioned whether 1) the seasonal variations of rainfall may affect pollutant concentrations, as compared to the Nanticoke landfill, and 2) drought periods which can affect aquifer systems, resulting in ground-water variations.

5B. EPA Response: Seasonal variations of rainfall, including drought conditions, and the resulting fluctuation in ground-water are expected to have a minimal effect on constituent concentrations at the BEC site, due to the following:

BEC Trucking operations ceased eight years ago. Consequently, the ground water underlying the site has probably achieved steady-state conditions.

Infiltration from surface water run-off is secondary to direct ground-water flow from upgradient portions of this aquifer with respect to recharging the aquifer at the site. Also, the fly ash material acts as a cap inhibiting direct percolation into the water table.

The BEC Trucking site is not comparable to the Nanticoke Landfill. A hazardous waste or municipal landfill situation is significantly different from the BEC Trucking site. Usually, a landfill is a deep source spread over a wide surface area. Surface water run-off can infiltrate through

these large source areas and, thus, generate leachate volumes which are not comparable to the BEC Trucking site which was not used as a landfill.

6A. Comment: Questioned the difference between text and data tables, regarding the dissolved lead in Monitoring Well #3.

6B. EPA Response: This is a typographical error which has no impact on the conclusions of the RI/FS. The level of lead in question (5ug/l) is one-tenth the current federal maximum contaminant level (MCL) and, consequently, is not of concern.

7A. Comment: Questioned the effect of acid rain (pH 4.0) on the solubility of lead.

7B. EPA Response: Low pH rainfall (pH 4.0-4.5) has been falling in the general vicinity of the BEC Trucking site for the last decade. Consequently, the effects of low pH rainfall of lead have been assessed by Remedial Investigation.

8A. Comment: Questioned why the proposed 10 ug/l MCL for lead was not used.

8B. EPA Response: Even though a new drinking water MCL for lead may be forthcoming, until it is promulgated, the existing MCL is the governing value. Since the reference dose for lead was obtained based on the current MCL of 50ug/l, a five-fold reduction of the MCL would result in a five-fold increase in the hazard index for lead. Despite this, all lead exposures to children under current use-average case scenarios, would remain within acceptable limits.

9A. Comment: Questioned the potential for migration of lead from the march sediments into the underlying water table.

9B. EPA Response: Since the wetlands area, northwest of the site, is a ground water discharge, downward percolation towards the water table is expected to be minimal.

10A. Comment: Questioned whether any private wells in the vicinity of the site were analyzed in the RI/FS and what effect there would be on them.

10B. EPA Response: Any private wells in the area are not expected to be impacted. The aquifer in which chemicals were detected discharges into the wetlands area to the north and west of the site. The only private well identified in the RI is on the Stewart Trailer Park property; the sampling results indicated no significant contamination of concern. This bedrock aquifer well has a depth of over one hundred feet in the bedrock aquifer, more than twice the depth of any monitoring well for the BEC Trucking site.

11A. Comment: Questioned whether the new well at the Green Acres Landscaping company would have an effect on the BEC Trucking site and the site contaminants on the Green Acres well.

11B. EPA Response: It is highly unlikely that the ground-water flow regime will be altered by the Green Acres well. This is due to both the distance, across Jensen Road, and the elevation of the well relative to the site. In addition, this well will be drawing from the bedrock aquifer, approximately twice as deep as any monitoring well for the BEC Trucking site. Furthermore, the proposed monitoring program will be able to detect any changes in ground-water flow patterns.

12A. Comment: Questioned why the potential use of area ground water was not addressed.

12B. EPA Response: At the present time, all potable water is supplied by the Town of Vestal public water supply system. Future non-potable water uses through private wells should be addressed by the Town of Vestal.

Risk Assessment Issues

13A. Comment: Questioned whether both non-carcinogenic effects and carcinogenic effects were studied.

13B. EPA Response: Non-carcinogenic or chronic effects as well as carcinogenic effects were taken into consideration during the Risk Assessment. For instance, arsenic and polyaromatic hydrocarbons (PAHs) were evaluated for both carcinogenic and non-carcinogenic effects. Other chemicals evaluated for non-carcinogenic effects were lead, selenium, silver, 2-butanone (methylethyl ketone), xylenes and ethylbenzene. For all chemicals of concern, the only chemical not evaluated for non-carcinogenic effects was benzene. This was due to the lack of

chronic or sub-chronic reference dose values (RfDs) for benzene. Non-carcinogenic effects include all types of adverse health effects including neurotoxicity.

14A. Comment: Questioned whether the impact of chemicals on humans with exceptional sensitivities was addressed.

14B. EPA Response: EPA's risk assessment methodology is intended to be over protective in order to account for the generic variation of human populations. Consequently, even those individuals who may be sensitive to a particular chemical are considered to be protected. For instance, RfDs used in calculating the potential for adverse health effects that are obtained from valid human studies have a multiplier of ten built in to account for variations in human sensitivity. In addition, conservative assumptions regarding exposure rates were utilized throughout the risk assessment.

15A. Comment: Questioned whether synergistic effects were studied.

15B. EPA Response: Although it is true that synergistic effects are not taken into account due to the lack of information regarding the synergistic actions of chemical mixtures, other efforts have been taken in order to ensure that such effects do not pose an unacceptable risk to human health. For example, all carcinogenic PAHs were assumed to have a potency factor equivalent to that of benzo(a)pyrene, the most toxic of all studied cPAHs. A similar step was taken for non-carcinogenic PAHs where all non-carcinogenics were assumed to be as toxic as naphthalene, also the most toxic. The end result of these actions was to greatly overestimate the risks posed by PAHs in order to account for any possible synergistic effects. In addition, potency factors and reference doses have safety factors ranging from 10 to 10,000. These safety factors take into account uncertainties regarding the toxicological effects of a chemical.

16A. Comment: Questioned whether children would be affected by any contaminants by playing in the wetlands.

16B. EPA Response: With respect to the wetlands area that is directly adjacent to the site, the risks identified were minimal. The exact nature of the risks in the area of the wetlands that is a few hundred feet to the west of the BEC site were not addressed by this RI/FS.

Site Contamination and Related Issues

17A. Comment: Questioned whether the removal of drainage ditch and marsh sediments could be a remedial action.

17B. EPA Response: Although run-off from the BEC Trucking site may have contributed to the presence of lead and PAHs in the drainage ditch and marsh area sediments, it is not the only source. Storm water run-off from Vestal Highway and other local feeder roads, the off-site oil seep, and other non-point sources have also contributed to the chemicals found in the drainage ditch and wetlands area sediments. Without addressing all the source areas, the drainage ditch and marsh area sediments would quickly become recontaminated following any such remediation.

18A. Comment: Suggested that the removal of the PAH-contaminated soil would protect the public water supply system.

18B. EPA Response: PAHs are strongly sorbed to soil and would not be expected to migrate into the ground water as a result of surface or rain water percolation. Thus, potential for ground-water contamination from these soils is very low.

19A. Comment: Suggested that, since the low cost for removal of contaminated soil was minimal in relation to the protection of human health, Alternative #2 (removal of contaminated soils to an approved landfill) would be a more preferred alternative than that of Alternative #1-No Further Action.

19B. EPA Response: Since the no further action alternative already represents a minimal risk to human health, any further benefit to human health resulting from the selection and implementation of Alternative #2 would be negligible. Cost was only one of many criteria used in determining the preferred alternative. The risk analysis supported EPA's preferred alternative determination as no further action.

20A. Comment: Questioned that, even though the use of fly ash as a fill material was prevalent in the area and represents a common arsenic source, fly ash remediation should be considered.

20B. EPA Response: The areawide use of fly ash represents a "background" situation. Remediation to below these "background" levels is not viable under this remediation scenario due to the steady state conditions exhibited in the fly ash/ground water interface. The sampling results show only one hit of arsenic

above the MCL more than twenty years from the original fly ash placement on the site.

21A. Comment: Questioned whether the off-site operations of Kay Terminals were the only source of benzene and related compounds.

21B. EPA Response: Since no on-site source of benzene was identified and since the one monitoring well hit of benzene detected was downgradient from the Kay Terminals discharge, it is very likely that the discharge is the source of the benzene. It should be noted that the only benzene detected at the site was adjacent to the drainage ditch and in one monitoring well (MW-3). No benzene was detected in the southeast corner of the site where other on-site volatiles were detected.

22A. Comment: Questioned whether the proximity of a wetlands with related contaminated sediments would suggest further removal of additional contaminated soils.

22B. EPA Response: Although wetlands sediments did contain low levels of some chemicals, a specific source could not be located on-site. Furthermore, these chemicals are the result of non-point source run-off. Also the wetlands is fed by a source stream which could also be introducing possible contaminants into the wetlands. Consequently, remediation of additional soils is not warranted.

23A. Comment: Questioned whether on-site barrels would be removed.

23B. EPA Response: Most of the barrels currently on-site contain materials used and produced during the remedial investigation phase of the project; four other barrels contain soils from the original removal action. These barrels will be properly disposed of by the EPA contractor within a reasonable time frame.

24A. Comment: Questioned whether BEC Trucking was ever used as a hazardous waste dump.

24B. EPA Response: Even though historic information indicates that hazardous materials may have been stored and used at the BEC Trucking site, the results of the RI/FS do not identify the site as a hazardous waste dump.

25A. Comment: Questioned why the off-site petroleum spill/oil seep was not being addressed in the RI/FS.

25B. Comment: The off-site spill is being addressed under the New York State spill response program, which will include pumping the contaminated ground water to a collection-type facility and treating it to specific remedial action levels. The Superfund program does not address petroleum-type contamination; such contamination is addressed under other federal programs.

26A. Comment: Questioned whether after-the-fact contamination can be measured.

26B. EPA Response: Results of the RI/FS indicate that, nearly eight years after BEC Trucking ceased operations, no direct contamination from the BEC site can be shown to be migrating to any public water supply well; no contamination plume has been identified.

Future Site Activity and Proposed Monitoring Program Issues

27A. Comment: Questioned the nature of future activity at the site.

27B. EPA Response: The current owner has not indicated any specific site activity for the future. Currently storage operations and sawmilling are the extent of site activity. If future site activity would deal with hazardous materials, all activities would be monitored under the Resource Conservation and Recovery Act program of EPA and NYSDEC.

28A. Comment: Questioned whether monitoring represents an adequate control of contaminants by offering no protection.

28B. EPA Response: In the absence of contaminant migration, monitoring is sufficient to protect public water supplies. If monitoring reveals contaminant migration, steps can be taken to control any such migration. The proposed monitoring program will be developed as an early warning system so that any necessary corrective measures can be taken to be protective of human health and the environment.

29A. Comment: Questioned what the specifics were for the proposed monitoring program.

29B. EPA Response: The specific details of the proposed monitoring program will be established shortly after the Record of Decision is signed. The work will be coordinated by EPA and the New York State Department of Environmental Conservation and Department of Health.